R^2 is a straight-chained alkyl moiety selected from the group consisting of $-(CH_2)_3CH_3$, $-(CH_2)_5CH_3$, $-(CH_2)_7CH_3$ and $-(CH_2)_9CH_3$, or an alkenyl group or alkynyl group having from 1 to 23 carbon atoms in the aliphatic chain;

Z^2 is a phosphorylcholine attachment-inhibiting group selected from the group consisting of $-X^1$, $-OX^1$, $-X^2X^3$ and $-OX^2X^3$;

X^1 is selected from the group consisting of -C(O)H, $-CO_2H$, CH_3, $C(CH_3)_3$, $Si(CH_3)_3$, $SiCH_3(C(CH_3)_3)_2$, $Si(C(CH_3)_3)_3$, $Si(PO_4)_2C(CH_3)_3$, a phenyl group, an alkyl-substituted phenyl group having from 1 to 6 carbons in the alkyl chain, an alkyl chain having from 1 to 6 carbons, an amino group, a fluorine, a chlorine, and a group having the formula $C(R^3R^4)OH$;

X^2 is selected from the group consisting of CH_2-, $C(CH_3)_2$-, $Si(PO_4)_2$-, $Si(CH_3)_2$-, $SiCH_3PO_4$-, C(O)- and $S(O)_2$-;

X^3 is selected from the group consisting of -C(O)H, $-CO_2H$, $-CH_3$, $-C(CH_3)_3$, $-Si(CH_3)_3$, $-SiCH_3(C(CH_3)_3)_2$, $-Si(C(CH_3)_3)_3$, $-Si(PO_4)_2C(CH_3)_3$, a phenyl group, an alkyl-substituted phenyl group having from 1 to 6 carbons in the alkyl chain, an alkyl chain having from 1 to 6 carbons, an amino moiety, a chlorine, a fluorine, or a group having the formula $C(R^3R^4)OH$, wherein each of R^3 and R^4 is independently an alkyl chain having from 1 to 6 carbons, a phenyl group or an alkyl-substituted phenyl group having from 1 to 6 carbons in the alkyl chain;

wherein when Z^2 is an amino group, R^2 is an aliphatic chain having from 1 to 9 or from 19 to 23 carbon atoms in the aliphatic chain;

and wherein the compound comprises at least about 5 mole percent of the lipid.

---

16. A compound having the formula R^1-Y^1-CHZ^1-$CH(NY^2Y^3)$-CH_2-Z^2, wherein:

R^1 is a straight-chained alkyl, alkenyl or alkynyl group having from 5 to 19 carbon atoms in the aliphatic chain;

Y^1 is -CH=CH-, -C≡C- or -CH(OH)CH(OH)-;

Z^1 is OH or a phosphorylcholine attachment-inhibiting group selected from the group consisting of $-X^1$, $-OX^1$, $-X^2X^3$ and $-OX^2X^3$;

Y^2 is H, a phenyl group, an alkyl-substituted phenyl group having from 1 to about 6 carbons in the alkyl chain, or an alkyl chain having from 1 to 10 carbons;

Y^3 is H or a group having the formula $-C(O)R^2$ or $-S(O)_2R^2$;

R^2 is a straight-chained alkyl moiety selected from the group consisting of $-(CH_2)_3CH_3$, $-(CH_2)_5CH_3$, $-(CH_2)_7CH_3$ and $-(CH_2)_9CH_3$, an alkenyl group group having from 1 to 23 carbon atoms in the aliphatic chain and an alkynyl group having from 1 to 23 carbon atoms in the aliphatic chain;

Z^2 is OH or a phosphorylcholine attachment-inhibiting group selected from the group consisting of $-X^1$, $-OX^1$, $-X^2X^3$ and $-OX^2X^3$;

X^1 is selected from the group consisting of -C(O)H, $-CO_2H$, CH_3, $C(CH_3)_3$, $Si(CH_3)_3$, $SiCH_3(C(CH_3)_3)_2$, $Si(C(CH_3)_3)_3$, $Si(PO_4)_2C(CH_3)_3$, a phenyl group, an alkyl-substituted phenyl group having from 1 to 6 carbons in the alkyl chain, an alkyl chain having from 1 to 6 carbons, an amino group, a fluorine, a chlorine, and a group having the formula $C(R^3R^4)OH$;

X^2 is selected from the group consisting of CH_2-, $C(CH_3)_2$-, $Si(PO_4)_2$-, $Si(CH_3)_2$-, $SiCH_3PO_4$-, C(O)- and $S(O)_2$-;

X^3 is selected from the group consisting of -C(O)H, $-CO_2H$, $-CH_3$, $-C(CH_3)_3$, $-Si(CH_3)_3$, $-SiCH_3(C(CH_3)_3)_2$, $-Si(C(CH_3)_3)_3$, $-Si(PO_4)_2C(CH_3)_3$, a phenyl group, an alkyl-substituted phenyl group having from 1 to 6 carbons in the alkyl chain, an alkyl chain having from 1 to 6 carbons, an amino moiety, a chlorine, a fluorine, or a group having the formula $C(R^3R^4)OH$, wherein each of R^3 and R^4 is independently an alkyl chain having from 1 to 6 carbons, a phenyl group or an alkyl-substituted phenyl group having from 1 to 6 carbons in the alkyl chain;

wherein when Z^2 is an amino group, R^2 is an aliphatic chain having from 1 to 9 or from 19 to 23 carbon atoms in the aliphatic chain.

27. The compound of claim 16 having the formula $CH_3(CH_2)_{12}$-CH=CH-$CH_{[2]}Z^1$-$CH(NHY^3)$-CH_2-Z^2.